

PRIME ELECTRICAL PROJECTS

	<u>Completion Status</u>
<p><u>TERMINAL B FIRE ALARM UPGRADE</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Design of new analog-addressable fire alarm system for existing Terminal B, a 319,000 SF terminal including fiber optic tie in to network loop, new speaker/strobe units and new fire command station.</p>	<p>C 2007</p>
<p><u>SHORT CIRCUIT AND COORDINATION STUDY</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Preparation of a comprehensive short circuit and coordination study of existing 15kV, 5kV, and 480/277V electrical distribution system at Logan which includes four main 15kV utility substations, five 15kV switching stations, over 35 double-ended and single ended 480V substations, and over sixty other pad mount locations. Documentation of existing one line diagrams and existing relay and protective equipment settings. Recommend changes for proper application and protection, and develop an implementation program to keep the study up to date.</p>	<p>S 2006</p>
<p><u>LOGAN FIRE ALARM UPGRADE STUDY</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> Preparation of an independent study which includes an evaluation of the existing Simplex fire alarm system at Logan International Airport. Report addresses such issues as emergency evacuation paging, speaker coverage, remote paging stations and fire command centers for firefighter personnel in the Terminals, central station issues and alarm reporting; the adequacy of current testing procedures; alternative manufacturers to Simplex; evaluating if MPA should have a separate fire alarm maintenance division, and ensuring all Tenant alarms are transmitted over fiber optic cable.</p>	<p>S 2005</p>
<p><u>15kV UTILITY SUBSTATION</u> LOGAN INTERNATIONAL AIRPORT <i>East Boston, MA</i> TMP designed a new fourth NSTAR utility substation at 15kV for Logan Airport and modified the switchgear at their three existing NSTAR substations as part of the Terminal A Redevelopment Project. New 15kV vacuum breakers with solid state protective relaying and metering were provided with two incoming NSTAR services, a Tie Breaker, four Intertie Breakers and various feeder breakers for Terminal A and other airport buildings were included. 15kV power factor correction switchgear and an upgrade to Massport's airport-wide SCADA system were also included.</p>	<p>2005</p>
<p><u>ELECTRICAL UPGRADES TO PASSENGER LOADING BRIDGES</u> LOGAN INTERNATIONAL AIRPORT <i>Massport Project No. 1.766-D1</i> <i>E. Boston, MA</i> Upgrades of electrical systems to provide capacity for point of use 400 hertz power and preconditioned air at various gates around the airport.</p>	<p>2000</p>
<p><u>15kV UTILITY SUBSTATION</u> CONLEY TERMINAL <i>S. Boston, MA</i> Design of new 13.8kV incoming service and site distribution, removal of overhead utilities on Day Boulevard, new double-ended substation and distribution for refrigerated containers and high mast lighting.</p>	<p>2000</p>

D – Design in Progress
C – Construction in Progress

S – Study
Date – Occupancy Date

DH – Design on Hold
CH – Construction on Hold

PRIME ELECTRICAL PROJECTS (Continued)

Completion Status

UPGRADE OF EMERGENCY GENERATORS

1998

MASSACHUSETTS STATE POLICE BARRACKS, TROOP A
Massachusetts State Project No. S945, Contract No. DC-1
 New emergency generators at sixteen sites around Massachusetts.

NEW FIRE ALARM AND EMERGENCY LIGHTING SYSTEMS

1998

BRIDGEWATER STATE HOSPITAL
Massachusetts State Project No. P947, Contract #1
Bridgewater, MA
 New fire alarm and emergency lighting for eleven buildings.

MISCELLANEOUS ELECTRICAL UPGRADES

1998

LOGAN INTERNATIONAL AIRPORT
Massport Project No. 1.724
E. Boston, MA

Switchgear replacement at two of Logan's utility substations, Porter Street and Wood Island. Seventy 15kV air breakers were replaced with new vacuum breaker technology. Required close coordination with tenants to schedule outages including four incoming utility breakers. Also, provision of new 15 kV dual selector switches and feeders at three hangars; and phase-out and removal of 4,160V. switchgear. \$3.5M project.

15kV UTILITY SUBSTATION

1998

DEPARTMENT OF TRANSPORTATION
Cambridge, MA

Retrofit of existing 15kV, 500MVA Federal Pacific air circuit breakers with new 750 MVA vacuum breakers with solid state protective relays and metering. Also, two new 500kW emergency generators in sound attenuated aluminum housings at Buildings 2 and 5.